

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number
WO 2005/001118 A2

- (51) International Patent Classification⁷: C12Q 1/18, 1/37, C12N 1/00
- (21) International Application Number: PCT/GB2004/002685
- (22) International Filing Date: 23 June 2004 (23.06.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0314699.0 24 June 2003 (24.06.2003) GB
- (71) Applicant (*for all designated States except US*): **PLANT BIOSCIENCE LIMITED** [GB/GB]; Norwich Research Park, Colney Lane, Norwich, Norfolk NR4 7UH (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **HUTCHINGS, Matthew, Ian** [GB/GB]; John Innes Centre, Norwich Research Park, Colney Lane, Norwich, Norfolk NR4 7UH (GB). **HONG, Hee-Jeon** [KR/GB]; John Innes Centre, Norwich Research Park, Colney Lane, Norwich, Norfolk NR4 7UH (GB). **BUTTNER, Mark, Jeremy** [GB/GB]; John Innes Centre, Norwich Research Park, Colney lane, Norwich, Norfolk NR4 7UH (GB).
- (74) Agents: **KREMER, Simon et al.**; Mewburn Ellis LLP, York House, 23 Kingsway, London, Greater London WC2B 6HP (GB).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: DETECTION SYSTEM

(57) Abstract: The invention provides a methods and materials for detecting an activity of a glycopeptide antibiotic (such as a vancomycin-type antibiotic), in a sample, the method comprising the steps of: (a) providing a microorganism in which a first endogenous gene encoding peptidyltransferase activity is inactivated, which activity is necessary for growth of the microorganism, and which activity can be complemented by a second, different, peptidyltransferase, which second peptidyltransferase is inducible in the microorganism by the presence of the antibiotic, (b) contacting the sample with the microorganism, (c) observing the microorganism for growth, wherein growth of the microorganism is correlated with the presence of the antibiotic. Unlike systems of the prior art, the system does not rely on the expression of a heterologous reporter gene in order to detect antibiotic activity, but instead utilises a "drug dependent" microorganism that can only grow in the presence of antibiotics that act as inducers of the relevant genes.